

EXHIBIT 22



Daniel Sessler <ds@or.org>

03/20/2013 12:42 PM

To ghansen@mmm.com

cc

bcc

Subject Re: Study: Contamination Increased 2000x with Bair Hugger Warming

Hi Gary,

Talking points won't resolve the issue or (much) limit the damage. Only bacterial sampling will put this issue to bed.

We still have nothing contractual for the registry study or DTT Non-cardiac. It's been at least six months since we got verbal approval for both...

Regards, Dan.

+++++

On Mar 20, 2013, at 12:09 PM, ghansen@mmm.com wrote:

Hi Dan,

Thanks for taking care of this kind of thing. We appreciate it. Attached is a draft of our comments on the study - it might be of interest.

I'm looking forward to seeing you in Barcelona! Take care.

Gary

<Mail Attachment.gif>

Gary Hansen, Ph.D. | Manager of New Product Discovery

Discovery Group | Infection Prevention Division

3M Center, 0270-02-N-03 | St. Paul, MN 55144

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From: Daniel Sessler <ds@or.org>
To: Privacy
Date: 03/19/2013 10:23 AM
Subject: Re: Study: Contamination Increased 2000x with Bair Hugger Warming

Hi Alparslan,

It is neither true nor significant. See enclosed article.

Regards, Dan.

[attachment "Sessler 11, Laminar Flow.pdf" deleted by Gary Hansen/US-Corp03/3M/US]

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On Mar 19, 2013, at 10:36 AM, Privacy wrote:

Hi Dan

What do you think about this? Is this true and is it clinically significant?

Thanks

Alparslan

Sent from my iPhone

Begin forwarded message:

From: Brent Augustine <info@hotdog-usa.com>
Date: March 19, 2013, 8:40:05 AM EDT
To: Privacy
Subject: Study: Contamination Increased 2000x with Bair Hugger Warming
Reply-To: Brent Augustine <info@hotdog-usa.com>

Study: Contamination Increased 2000x with Bair Hugger Warming

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Dr. Turan:

Thank you for visiting us at past ASA shows. New research related to patient safety during orthopedic surgery has recently been published, and may be of particular interest to you. The following news is from a press release that can also be found [here](#).

Sincerely,
Brent Augustine
President

Minneapolis, MN March 18, 2013: The use of Bair Hugger forced-air warmers during surgery creates convection currents that capture particles below the surgical table, lifting them into the sterile surgical field, [according to research](#) recently published by orthopedic surgeons. The waste heat radiating through the surgical drape induced the formation of tornado-like vortexes of rapidly spinning air near the surgical site. The vortexes sucked contaminated air from the operating room floor and deposited it over the surgical wound.

2,000 times more contaminant particles were found in the air over the wound with Bair Hugger warming than with air-free HotDog conductive warming. With HotDog patient warming, only 1,000 particles per cubic meter of air were present. **With Bair Hugger warming, the particle count was 2,174,000 per cubic meter, an increase of 217,300%.**

Concerned by convection currents produced by hot-air warming devices, orthopedic surgeons A.J. Legg and A.J. Hamer from Northern General Hospital in Sheffield, United Kingdom, compared the torso-style disposable blankets of 3M's Bair Hugger system with the reusable, air-free HotDog conductive warming system. The surgeons released particles below the surgical table and then measured how many were transported to the surgical site. Neither surgeon has any financial relationship with either of the products studied.

The study was published in the February issue of *The Bone and Joint Journal* and entitled "Forced-air patient warming blankets disrupt unidirectional airflow."

Dr. Scott Augustine, inventor of both products studied, stated, "Such a massive increase in airborne contamination is obviously a safety issue in contamination-sensitive surgeries. In joint replacement surgery, for example, a single airborne bacterium can cause a deep joint infection."

Periprosthetic joint infections are often catastrophic: immense pain and suffering, permanent disability and an enormous cost to the hospital.

"Every joint infection is a disaster—both for the patient and the system," said Dr. Augustine. "The process is horrific: ex-plant the joint, prolonged hospitalization, 6-8 weeks of IV antibiotics and then—assuming no amputation—re-implant the joint. The average cost is around \$100,000." More than 12,000 of these infections occur each year in the US, a rate that some see as a significant public health problem.

A study conducted by other orthopedic surgeons and published in November 2011 in the *Journal of Bone & Joint Surgery* positively linked Bair Hugger warming to increased joint replacement infections. The surgeons showed that their deep joint infection rate dropped 74% when Bair Hugger warming was discontinued.

"While Bair Hugger has served most surgical patients well for the past 25 years," said Dr. Augustine, "these two studies along with three others recently published clearly show that hot-air warming has unintended consequences and should never be used during total joint replacement surgery. Contamination of the sterile surgical field is a serious risk to patient safety."

The *BJJ* article follows several other recently published, peer-reviewed studies in the *Journal of Bone & Joint Surgery (Br)* , the *American Journal of Infection Control* , *Anaesthesia* , *Orthopedic Review* and *Anaesthesia & Analgesia* relating to the potential contamination of surgical sites by forced-air warming devices.

* * *

The BJJ study may be found at <http://www.bjj.boneandjoint.org.uk/content/95-B/3/407.short?rss=1&cited-by=yes&legid=jbjsbr:95-B/3/407&related-urls=yes&legid=jbjsbr:95-B/3/407>.

Citations to other studies mentioned in this letter:

[Albrecht M, Leaper D et al. Forced-air warming blowers: An evaluation of filtration adequacy and airborne contamination emissions in the operating room. Am J Infect Control 2011;39:321-8.](#)

[Leaper D et al. Forced-air warming: a source of airborne contamination in the operating room? Orthopedic Rev. 2009;1\(2\):e28.](#)

[McGovern et al. Forced-air warming and ultra-clean ventilation do not mix. J Bone and Joint Surg-Br. 2011;93\(11\):1537-1544.](#)

[Legg et al. Do forced air patient-warming devices disrupt unidirectional downward airflow? J Bone and Joint Surg-Br. 2012;94-B:254-6.](#)

[Belani et al. Patient warming excess heat: The effects on orthopedic operating room ventilation performance. Anesthesia & Analgesia July 2012 \(prepublished online\).](#)

[Dasari et al. Effect of forced air warming on the performance of operating theatre laminar flow ventilation. Anaesthesia 2012;67:244-249.](#)

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<Talking points - Legg-Hamer 2013 (GH comments).docx>